CONTRACT

SPECIAL PROVISIONS

Project No.:	**SP-0091(18)26**
Name:	**SR-91; 600 South Main Street, Logan**
County:	**Cache**
Bid Opening:	**April 1, 2003**
	Date

UDOT
GOING THE EXTRA MILE

2002 - U.S. Standard Units (Inch-Pound Units)

Table of Contents

Project # SP-0091(18)26

I. 2002 Standard Specifications

The State of Utah Standard Specifications for Road and Bridge Construction, U.S. Standard Units (Inch Pound Units) CSI Format, Edition of 2002 with Changes One and Two included applies on this project.

II. List of Revised Standard Specifications

Change One – Included in 2002 Standard Specifications

Revised August 29, 2002

Section 00570 Articles 1.2 A 69, A 71 b (deleted)
Section 00727 Articles 1.1 D; 1.5 B; 1.9; 1.10; 1.16 B, C; 1.18 B
Section 01574 Articles 1.2 B
Section 02721 Articles 1.2 D (added), H (replaced), I (deleted);1.6 B1; 2.1 A Table 3; 3.2 C
Section 02741 Articles 3.8 E 2 a, b
Section 02821 Articles 3.1 A
Section 02892 Articles 1.5 A, B
Section 02936 Articles 1.4; 1.5 C
Section 03152 Articles 1.2 P, Q; 2.2 A, B
Section 05120 Articles 1.4 A (deleted), 3.3 A
Section 16525 Articles 1.6 A, B

Change Two – Included in 2002 Standard Specifications

Revised December 19, 2002

Section 01561 Article 3.1 A
Section 02075 Article 2.7 A
Section 02372 Article 2.1 A 4
Section 02455 Article 3.3 B 2
Section 02785 Article 3.2 C
Section 02861 Article 3.3 A
Section 03055 Articles 1.2 P (inserted), 2.3 B, 2.4 (deleted), 2.7 A 1 a-e (added), 2.7 B 2 (added), 2.8 A 1 a, 2.8 A 2 (deleted), 2.9 A3, 3.2 A Table, 3.2 C, 3.7 A 3, 3.8 C 1, 3.9 A-B, 3.10, 3.11 B 1, 3.11 B 3
Section 07922 Article 2.1 Table 1

III. List of Revised Standard Drawings

Change One

Revised December 19, 2002

AT 7	Polymer Concrete Junction Box Details	12/19/2002
BA 1A	Precast Concrete Full Barrier Standard Section	12/19/2002
BA 1B	Precast Concrete Full Barrier Standard Section	12/19/2002
BA 3	Cast In Place Constant Slope Barrier	12/19/2002
BA 4B	Beam Guardrail Installations	12/19/2002
BA 4C	Beam Guardrail Anchor Type I	12/19/2002
CC 6	Crash Cushion Type E Sand Barrel Details	12/19/2002
DG 3	Maximum Fill Height and End Sections for HDPE And PVC Pipes	12/19/2002
DG 4	Pipe Culverts Minimum Cover	12/19/2002
EN 4	Temporary Erosion Control (Drop-Inlet Barriers)	12/19/2002
GW 1	Raised Median and Plowable End Section	12/19/2002
PV 2	Pavement Approach Slab Details	12/19/2002
SL 13	Traffic Counting Loop Detector Details	12/19/2002
SN 2	Flashing School Sign	12/19/2002
SN 4	Flashing Stop Sign	12/19/2002
SN 5	Typical Installation For Milepost Signs	12/19/2002
SN 8	Ground Mounted Timber Sign Post (P1)	12/19/2002
ST 1	Object Marker “T” Intersection and Pavement Transition Guidance	12/19/2002
ST 7	Pavement Markings and Signs at Railroad Crossings	12/19/2002
SW 3A	Precast Concrete Noise Wall 1 of 2	12/19/2002
SW 3B	Precast Concrete Noise Wall 2 of 2	12/19/2002
SW 4A	Precast Concrete Retaining/Noise Wall 1 of 2	12/19/2002

IV. Materials Minimum Sampling and Testing

Follow the requirements of the Current Materials Minimum Sampling and Testing Manual:

Materials Minimum Sampling and Testing Manual reference can be found from the UDOT Web Site at:
http://www.dot.utah.gov/esd/Manuals/Materials/MaterialsSampling.htm

For UDOT employees the Manual can also be found on the Shared Drive at:
\Shared\Engineering Services\Manuals\Materials (W drive for the Complex and R drive for the Regions)

V. Notice to Contractors

NOTICE TO CONTRACTORS

Sealed proposals will be received by the Utah Department of Transportation UDOT/DPS Building (4th Floor), 4501 South 2700 West, Salt Lake City, Utah. 84114-8220, until 2 o'clock p.m. Tuesday, April 01, 2003, and at that time the download process of bids from the USERTrust Vault to UDOT will begin, with the public opening of bids scheduled at 2:30 for MINOR BRIDGE REHAB of SR-91; 600 SOUTH MAIN STREET, LOGAN in CACHE County, the same being identified as State Project No: SP-0091(18)26.

Federal Regulations:
Wage Rate Non-Applicable.

Project Location: 0.094 Miles of Route: SR-91 from R.P. 25.943 to R.P. 26.016

The principal items of work are as follows (for all items of work see attachment):
Remove & Replace Concrete Handrail System (Est. Conc. Qty. 26 cu. yds.)
Remove & Replace Concrete Sidewalk & Curb (Est. Conc. Qty. 76 cu. yds.)
Pothole Patching

The project is to be completed: in 70 Working Days.

Other Requirements:
All project bidding information, including Specifications and Plans, can be viewed, downloaded, and printed from UDOT's Project Development Construction Bid Opening Information website, http://www.dot.utah.gov/cns/bidopeninfo.htm. To bid on UDOT projects, bidders must use UDOT's Electronic Bid System (EBS). The EBS software and EBS training schedules are also available on this website.

Project information can also be reviewed at the main office in Salt Lake City, its Region offices, and its District offices in Price, Richfield, and Cedar City.

Project Plans cannot be downloaded or printed from the website unless your company is registered with UDOT. Go to UDOT's website to register. Unregistered companies may obtain the Specifications and Plans from the main office, 4501 South 2700 West, Salt Lake City, (801) 965-4346, for a fee of $75.00, plus tax and mail charge, if applicable, none of which will be refunded.

As required, a contractor's license must be obtained from the Utah Department of Commerce.

Each bidder must submit a bid bond from an approved surety company on forms provided by the Department; or in lieu thereof, cash, certified check, or cashier's check for not less than 5% of the total amount of the bid, made payable to the Utah Department of Transportation, showing evidence of good faith and a guarantee that if awarded the contract, the bidder will execute the contract and furnish the contract bonds as required.

The right to reject any or all bids is reserved.

If you need an accommodation under the Americans with Disabilities Act, contact the Construction Division at (801) 965-4346. Please allow three working days.

Additional information may be secured at the office of the Utah Department of Transportation, (801) 965-4346.

Dated this 01st day of April, 2003.

UTAH DEPARTMENT OF TRANSPORTATION
John R. Njord, Director

Revised Date:

VI. EQUAL OPPORTUNITY (STATE PROJECTS)

Selection of Labor:

During the performance of this contract, the Contractor shall not discriminate against labor from any other State, possession, or territory of the United States.

Employment Practices:

During the performance of this contract, the Contractor agrees as follows:

The Contractor will not discriminate against any employee or applicant for employment because of race, religion, sex, color, national origin, age, or disability. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, religion, sex, color, national origin, age, or disability. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoffs or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provide by the State Highway Department setting forth the provisions of this nondiscrimination clause.

The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, religion, sex, color, national origin, age, or disability.

The Contractor will send to each labor union or representative of workers with which the Contractor has a collective bargaining agreement or other contract or understanding, a notice to be provided by the State Highway Department advising the said labor union or worker' representative of the Contractors commitments under this section and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further State contracts.

The Contractor will include the provisions of this Section in every subcontract or purchase order so that such provision will be binding upon each Subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the State Highway Department may direct as a means of enforcing such provisions including sanctions for noncompliance.

VII. BIDDERS SCHEDULE

Utah Department of Transportation
Bidder's Schedule

Bid Opening Date: 4/1/2003
Project Number: SP-0091(18)26
Project Name: SR-91; 600 SOUTH MAIN STREET, LOGAN
Description: MINOR BRIDGE REHAB
Funding STATE

Region: REGION 1
County CACHE

#	Item	Description	Quantity	Unit
10 - ROADWAY				
	Description:	Roadway		
1	012850010	Mobilization	1	lump sum
2	013150010	Public Information Services	1	lump sum
3	015540005	Traffic Control	1	lump sum
4	017210010	Survey	1	lump sum
5	018920050	Reconstruct Manhole	2	each
6	022220005	Remove Concrete Sidewalk	55	square yard
7	022220010	Remove Concrete Driveway	185	square yard
8	022220020	Remove Concrete Curb and Gutter	420	foot
9	02316002P	Roadway Excavation (Plan Quantity)	25	cubic yard
10	027050015	Asphalt Pavement Sawing	790	foot
11	027210080	Untreated Base Course 3/4 inch or 1 inch Max	36	cubic yard
12	027410010	HMA Mix - 1/2 inch	525	ton
13	027480030	Emulsified Asphalt SS-1	3	ton
14	02765005*	Pavement Marking Paint	3	gallon
15	027680005	4 inch Pavement Marking Tape - White	250	foot
16	027680010	8 inch Pavement Marking Tape - White	100	foot
17	027680015	4 inch Pavement Marking Tape - Yellow	1050	foot
18	027680025	Pavement Message (Tape)	7	each
19	02771003P	Concrete Curb and Gutter	420	foot
20	02771004P	Concrete Driveway Flared, 6 inch Thick	1170	square foot
21	02771005P	Concrete Driveway Flared, 7 inch Thick	915	square foot
22	02771006P	Pedestrian Access Ramp Type A	60	square foot
23	02771007P	Pedestrian Access Ramp Type C	60	square foot
24	02776001P	Concrete Sidewalk	455	square foot
25	027860010	Open Graded Surface Course	165	ton
26	027860020	Asphalt Cement PG 64-34	11	ton
27	028910005	Remove Sign	1	each
28	028910025	Sign Type A-I, 12 inch X 18 inch	2	each
29	028910050	Sign Type A-I, 24 inch X 30 inch	1	each
30	029610020	Rotomilling - 1 Inch	10	square yard
31	02961006P	Rotomilling - 5 1/2 Inch	3000	square yard
20 - STRUCTURES				
	Description:	Preservation Rehab For Bridge D-540R2		
32	022250010	Asphalt Surfacing Removal (Structures)	784	square yard
33	02626002*	Pipe Drain Closure	4	each
34	027410010	HMA Mix - 1/2 inch	83	ton
35	027860010	Open Graded Surface Course	39	ton
36	027860020	Asphalt Cement PG 64-34	3	ton
37	03312001*	Remove & Replace Concrete Handrail System (Est. Conc. Qty. 26 cu. yds.)	1	lump sum
38	03312002*	Remove & Replace Concrete Sidewalk & Curb (Est. Conc. Qty. 76 cu. yds.)	1	lump sum
39	03312003*	Remove & Replace Precast Concrete Lamp Post	4	each
40	03925001*	Sidewalk, Curb & Concrete Handrail System Sealing	226	foot

Note: Item numbers ending with "" or "P" identify a change to the Standard Specification, Supplemental Specifications or Me
and payment. Read all related documents carefully.

Utah Department of Transportation
Bidder's Schedule

Bid Opening Date: 4/1/2003
Project Number: SP-0091(18)26
Project Name: SR-91; 600 SOUTH MAIN STREET, LOGAN
Description: MINOR BRIDGE REHAB
Funding STATE

Region: REGION 1
County CACHE

#	Item	Description	Quantity	Unit
20 - STRUCTURES				
	Description:	Preservation Rehab For Bridge D-540R2		
41	03934001*	Pothole Patching	2200	square foot
42	03936001*	West Wall Areas Repair	1	lump sum
43	07105001P	Waterproofing Membrane	792	square yard
44	07925001*	Joint Crack Sealing	400	foot
45	165260010	Electrical Work Bridges	1	lump sum
60 - LIGHTING				
46	16525001D	Bridge Lighting System	1	lump sum

Note: Item numbers ending with "" or "P" identify a change to the Standard Specification, Supplemental Specifications or Me
and payment. Read all related documents carefully.

VIII. Measurement and Payment

MEASUREMENT AND PAYMENT

The Department will measure and pay for each bid item as detailed in this section. Payment is contingent upon acceptance by the Department.

Items are listed by Specification and in tables as follows:

Item #	Bid item number	Bid Item Name	Unit of measurement and payment
Additional information goes here.			

1	**012850010**	**Mobilization**	**Lump sum**
	Payment	**Amount Paid**	**When Paid**
	First	The lesser of 25% of Mobilization or 2.5% of contract	With first estimate
	Second	The lesser of 25% of Mobilization or 2.5% of contract	With estimate following completion of 5% of contract
	Third	The lesser of 25% of Mobilization or 2.5% of contract	With estimate following completion of 10% of contract
	Fourth	The lesser of 25% of Mobilization or 2.5% of contract	With estimate following completion of 20% of contract
	Final	Amount bid in excess of 10% of contract price.	Project Acceptance-Final

2	**013150010**	**Public Information Services**	**Lump Sum**
	Payment	**Amount Paid**	**When Paid**
	First	The lesser of 25% of Public Information Services or 2.5% of contract	With first estimate
	Second	The lesser of 25% of Public Information Services or 2.5% of contract	With estimate following completion of 5% of contract
	Third	The lesser of 25% of Public Information Services or 2.5% of contract	With estimate following completion of 10% of contract
	Fourth	The lesser of 25% of Public Information Services or 2.5% of contract	With estimate following completion of 20% of contract
	Final	Amount bid in excess of 10% of contract price	Project Acceptance-Final

3	**015540005**	**Traffic Control**	**Lump Sum**
	Payment	**Amount Paid**	**When Paid**
	First	The lesser of 25% of Traffic Control or 2.5% of contract	With first estimate
	Second	The lesser of 25% of Traffic Control or 2.5% of contract	With estimate following completion of 5% of contract
	Third	The lesser of 25% of Traffic Control or 2.5% of contract	With estimate following completion of 10% of contract
	Fourth	The lesser of 25% of Traffic Control or 2.5% of contract	With estimate following completion of 20% of contract
	Final	Amount bid in excess of 10% of contract price	Project Acceptance-Final

4	**017210010**	**Survey (Specialty Item)**	**Lump sum**
	Payment	**Amount Paid**	**When Paid**
	First	The lesser of 25% of Survey or 2.5% of contract	With first estimate
	Second	The lesser of 25% of Survey or 2.5% of contract	With estimate following completion of 5% of contract
	Third	The lesser of 25% of Survey or 2.5% of contract	With estimate following completion of 10% of contract
	Fourth	The lesser of 25% of Survey or 2.5% of contract	With estimate following completion of 20% of contract
	Final	Amount bid in excess of 10% of contract price	Project Acceptance-Final

5	**018920050**	**Reconstruct Manhole**	**Each**
In place			

6	**022220005**	**Remove Concrete Sidewalk**	**Square yard**
Area of steps will be based on the area of the horizontal projection.			

7	**022220010**	**Remove Concrete Driveway**	**Square yard**

8	**022220020**	**Remove Concrete Curb and Gutter**	**Feet**

9	**02316002P**	**Roadway Excavation (Plan Quantity)**	**Cubic yard**
A. Plan quantity, in original position, computed by the method of average end areas. B. Department authorizes cross sections or modifications including excavation below subgrade, unstable slopes, unpreventable slides and terracing. C. Department will not measure or pay for excavation in excess of that authorized. D. The Department pays for re-handing or additional haul when it is directed in writing as "Extra Work."			

10	**027050015**	**Asphalt Pavement Sawing**	**Feet**
Payment: When no depth is shown, payment will be based on a depth of 6 inches If the average depth exceeds the plan depth by 2 inches or more, the unit price will increase by 20 percent.			

11	**027210080**	**Untreated Base Course 3/4 inch or 1 inch Max**	**Cubic yard**
Computed by average end area of plan typical sections.			

12	**027410010**	**HMA - 1/2 inch**	**Ton**
Includes aggregates, asphalt binder, hydrated lime, other additives, etc. The Department will not pay separately for asphalt binder, hydrated lime, additives, etc.			

13	**027480030**	**Emulsified Asphalt SS-1**	**Ton**
Do not measure water added in excess of the specified amount in Standard Specification 02745.			

14	**02765005***	**Pavement Marking Paint**	**Gallon**

In place, Payment:

A. The Department will not pay for removal of unauthorized, smeared, or damaged markings.

B. Price reduction for paint application rate:

Rate	**Pay Factor**
At the specified rate	1.0
1-10 percent below the specified rate	0.75
11-15 percent below the specified rate	0.50
More than 15 percent below the specified rate	May be accepted at 0.40 percent or required to be repainted.

15	**027680005**	**4 inch Pavement Marking Tape - White**	**Feet**
A. Do not measure the gap in the skip line. B. Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price.			

16	027680010	8 inch Pavement Marking Tape - White	Feet

A. Do not measure the gap in the skip line.
B. Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price.

17	027680015	4 inch Pavement Marking Tape - Yellow	Feet

A. Do not measure the gap in the skip line.
B. Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price.

18	027680025	Pavement Message (Tape)	Each

Measurement - Painted Pavement Messages:

A. Letter = one message.
B. Arrow = one message.
C. Multi-headed arrow = one message per arrow.
D. School crossbars = one message per 24 inch x 10 ft bar.
E. Crosswalk = two message per lane and two messages per shoulder.
F. Stop Bar = one message per lane and one message per shoulder.
G. Railroad crossing markings = seven messages per lane.
   1. 'R' = one message each (two required).
   2. 'X' = two messages.
   3. Transverse Bar = one message each (two required).
   4. Stop Bar = one message.
H. Include all costs for the Manufacturer's Service Representative and other technical assistance in the contract unit price.

19	02771003P	Concrete Curb and Gutter	Feet

Measured along the roadway face. Include excavation if Roadway Excavation is not a bid item.
SEE SHEET DT-2 FOR DETAILS.
Price Adjustments for Strength

A. When concrete is below specified strength:
   1. Department may accept item at a reduced price
   2. The pay factor will be applied to the portion of the item which is represented by the strength tests that fall below specified strength.
   3. Department will calculate the pay factor as follows:

Psi below specified strength:	Pay Factor:
1 - 100	0.98
101 - 200	0.94
201 - 300	0.88
301 - 400	0.80
More than 400	0.50 or Engineer may reject

20	02771004P	Concrete Driveway Flared, 6 inch Thick	Square Feet

Includes:
A. Radius and Flares.
B. Restoration of sidewalk and park strip.

Price Adjustments for Strength

A. When concrete is below specified strength:
   1. Department may accept item at a reduced price
   2. The pay factor will be applied to the portion of the item which is represented by the strength tests that fall below specified strength.
   3. Department will calculate the pay factor as follows:

Psi below specified strength:	Pay Factor:
1 - 100	0.98
101 - 200	0.94
201 - 300	0.88
301 - 400	0.80
More than 400	0.50 or Engineer may reject

21	02771005P	Concrete Driveway Flared, 7 inch Thick	Square Feet

Includes:
A. Radius and Flares.
B. Restoration of sidewalk and park strip.

Price Adjustments for Strength

A. When concrete is below specified strength:
   1. Department may accept item at a reduced price
   2. The pay factor will be applied to the portion of the item which is represented by the strength tests that fall below specified strength.
   3. Department will calculate the pay factor as follows:

Psi below specified strength:	Pay Factor:
1 - 100	0.98
101 - 200	0.94
201 - 300	0.88
301 - 400	0.80
More than 400	0.50 or Engineer may reject

22	02771006P	Pedestrian Access Ramp Type A	Square Feet

In place
Includes:
A. Radius and Flares.
B. Restoration of sidewalk and park strip.
Price Adjustments for Strength
A. When concrete is below specified strength:
1. Department may accept item at a reduced price
2. The pay factor will be applied to the portion of the item which is represented by the strength tests that fall below specified strength.
3. Department will calculate the pay factor as follows:

Psi below specified strength:	Pay Factor:
1 - 100	0.98
101 - 200	0.94
201 - 300	0.88
301 - 400	0.80
More than 400	0.50 or Engineer may reject

23	02771007P	Pedestrian Access Ramp Type C	Square Feet

In place
Includes:
A. Radius and Flares.
B. Restoration of sidewalk and park strip.
Price Adjustments for Strength
A. When concrete is below specified strength:
1. Department may accept item at a reduced price
2. The pay factor will be applied to the portion of the item which is represented by the strength tests that fall below specified strength.
3. Department will calculate the pay factor as follows:

Psi below specified strength:	Pay Factor:
1 - 100	0.98
101 - 200	0.94
201 - 300	0.88
301 - 400	0.80
More than 400	0.50 or Engineer may reject

24	02776001P	Concrete Sidewalk	Square feet

In place, Includes:
A. Excavation
B. Restoration of sidewalk and park strip.

Price Adjustments for Strength

A. When concrete is below specified strength:
   1. Department may accept item at a reduced price
   2. The pay factor will be applied to the portion of the item which is represented by the strength tests that fall below specified strength.
   3. Department will calculate the pay factor as follows:

Psi below specified strength:	Pay Factor:
1 - 100	0.98
101 - 200	0.94
201 - 300	0.88
301 - 400	0.80
More than 400	0.50 or Engineer may reject

25	027860010	Open Graded Surface Course	Ton

Measurement:
In place
A. Include aggregates and all additives including hydrated lime. Provide additional measurements for Asphalt Binder.

26	027860020	Asphalt Cement PG 64-34	Ton

27	028910005	Remove Sign	Each

28	028910025	Sign Type A-1, 12 inch X 18 inch	Each

In place

29	028910050	Sign Type A-1, 24 inch X 30 inch	Each

In place

30	029610020	Rotomilling - 1 inch	Square Yard

31	02961006P	Rotomilling - 5 ½ inch	Square Yard

32	**022250010**	**Asphalt Surfacing Removal (Structures)**	**Square Yard**

33	**02626002***	**Pipe Drain Closure**	**Each**

34	**027410010**	**HMA - 1/2 inch**	**Ton**
Includes aggregates, asphalt binder, hydrated lime, other additives, etc. The Department will not pay separately for asphalt binder, hydrated lime, additives, etc.			

35	**027860010**	**Open Graded Surface Course**	**Ton**

Measurement:
In place
A. Include aggregates and all additives including hydrated lime. Provide additional measurements for Asphalt Binder.

36	**027860020**	**Asphalt Cement PG 64-34**	**Ton**

37	**03312001***	**Remove & Replace Concrete Handrail System (Est. Conc. Qty. 26 cu. yds.)**	**Lump Sum**

*** Contractor is advised to do diligence in bidding this item. Bidding should be based not only on materials being used (namely, concrete and rebar) but also on work's complex form work to recreate all he corners, angles, and curves in the concrete handrail system. Also, sidewalk and curb rebuilding will be a meticulous process of: concrete removal, drilling for rebar, and forming for a changing cross-section. This item is HIGHLY LABOR INTENSIVE!

In place, include excavation if Roadway Excavation is not a bid item.

Price Adjustments for Strength

A. When concrete is below specified strength:
   1. Department may accept item at a reduced price
   2. The pay factor will be applied to the portion of the item which is represented by the strength tests that fall below specified strength.
   3. Department will calculate the pay factor as follows:

Psi below specified strength:	**Pay Factor:**
1 - 100	0.98
101 - 200	0.94
201 - 300	0.88
301 - 400	0.80
More than 400	0.50 or Engineer may reject

38	03312002*	Remove & Replace Concrete Sidewalk & Curb (Est. Conc. Qty. 76 cu. yds.)	Lump Sum

*** Contractor is advised to do diligence in bidding this item. Bidding should be based not only on materials being used (namely, concrete and rebar) but also on work's complex form work to recreate all he corners, angles, and curves in the concrete handrail system. Also, sidewalk and curb rebuilding will be a meticulous process of: concrete removal, drilling for rebar, and forming for a changing cross-section. This item is HIGHLY LABOR INTENSIVE!

In place, includes:
A. Excavation if Roadway Excavation is not a bid item.
B. Removal and replacement of ½" joint filler.

Price Adjustments for Strength

A. When concrete is below specified strength:
   1. Department may accept item at a reduced price
   2. The pay factor will be applied to the portion of the item which is represented by the strength tests that fall below specified strength.
   3. Department will calculate the pay factor as follows:

Psi below specified strength:	Pay Factor:
1 - 100	0.98
101 - 200	0.94
201 - 300	0.88
301 - 400	0.80
More than 400	0.50 or Engineer may reject

39	03312003*	Remove & Replace Precast Concrete Lamp Post	Each

In place, include excavation if Roadway Excavation is not a bid item.

Price Adjustments for Strength

A. When concrete is below specified strength:
   1. Department may accept item at a reduced price
   2. The pay factor will be applied to the portion of the item which is represented by the strength tests that fall below specified strength.
   3. Department will calculate the pay factor as follows:

Psi below specified strength:	Pay Factor:
1 - 100	0.98
101 - 200	0.94
201 - 300	0.88
301 - 400	0.80
More than 400	0.50 or Engineer may reject

40	03925001*	Sidewalk, Curb & Concrete Handrail System Sealing	Feet

41	03934001*	Pothole Patching	Square Feet

Estimated plan quantities are based on preliminary field review for bidding purposes only.
Repair the actual quantities determined by the Engineer.
Pothole patching may be reduced, deleted, or increased over the bid quantities from the contract. If any of these situations occur, the price of the actual quantity will be paid for at the contract unit price.
Department will not allow additional compensation for repairing blow throughs, or for removing and repairing failed patches.

42	**03936001***	**West Wall Areas Repair**	**Lump Sum**

43	**07105001P**	**Waterproofing Membrane**	**Square Yard**

44	**07925001***	**Joint Crack Sealing**	**Feet**

45	**165260010**	**Electrical Work Bridges**	**Lump sum**

46	**16525001D**	**Bridge Lighting System**	**Lump Sum**
Includes all materials and workmanship to provide a complete and fully operational Bridge lighting system.			

IX. PDBS Project Summary Report

Summary Report

Project: SP-0091(18)26 **Version: 1**

SR-91; 600 SOUTH MAIN STREET, LOGAN

Detail	Alt Group	Alt #	Description
10 - ROADWAY	0	0	Roadway

Item Number	Description	Qty	Unit
012850010	Mobilization	1	Lump
013150010	Public Information Services	1	Lump
015540005	Traffic Control	1	Lump
017210010	Survey	1	Lump
018920050	Reconstruct Manhole	2	Each
022220005	Remove Concrete Sidewalk	55	sq yd
022220010	Remove Concrete Driveway	185	sq yd
022220020	Remove Concrete Curb and Gutter	420	ft
02316002P	Roadway Excavation (Plan Quantity)	25	cu yd
027050015	Asphalt Pavement Sawing	790	ft
027210080	Untreated Base Course 3/4 inch or 1 inch Max	36	cu yd
027410010	HMA Mix - 1/2 inch	525	Ton
027480030	Emulsified Asphalt SS-1	3	Ton
02765005*	Pavement Marking Paint	3	gal
027680005	4 inch Pavement Marking Tape - White	250	ft
027680010	8 inch Pavement Marking Tape - White	100	ft
027680015	4 inch Pavement Marking Tape - Yellow	1,050	ft
027680025	Pavement Message (Tape)	7	Each
02771003P	Concrete Curb and Gutter	420	ft
02771004P	Concrete Driveway Flared, 6 inch Thick	1,170	sq ft
02771005P	Concrete Driveway Flared, 7 inch Thick	915	sq ft
02771006P	Pedestrian Access Ramp Type A	60	sq ft
02771007P	Pedestrian Access Ramp Type C	60	sq ft
02776001P	Concrete Sidewalk	455	sq ft
027860010	Open Graded Surface Course	165	Ton
027860020	Asphalt Cement PG 64-34	11	Ton
028910005	Remove Sign	1	Each
028910025	Sign Type A-I, 12 inch X 18 inch	2	Each
028910050	Sign Type A-I, 24 inch X 30 inch	1	Each

Summary Report

Project: SP-0091(18)26 **Version: 1**

SR-91; 600 SOUTH MAIN STREET, LOGAN

Detail	Alt Group	Alt #	Description
10 - ROADWAY	0	0	Roadway

Item Number	Description	Qty	Unit
029610020	Rotomilling - 1 Inch	10	sq yd
02961006P	Rotomilling - 5 1/2 Inch	3,000	sq yd

Detail	Alt Group	Alt #	Description
20 - STRUCTURES	0	0	Preservation Rehab For Bridge D-540R2

Item Number	Description	Qty	Unit
022250010	Asphalt Surfacing Removal (Structures)	784	sq yd
02626002*	Pipe Drain Closure	4	Each
027410010	HMA Mix - 1/2 inch	83	Ton
027860010	Open Graded Surface Course	39	Ton
027860020	Asphalt Cement PG 64-34	3	Ton
03312001*	Remove & Replace Concrete Handrail System (Est. Conc. Qty. 26 cu. yds.)	1	Lump
03312002*	Remove & Replace Concrete Sidewalk & Curb (Est. Conc. Qty. 76 cu. yds.)	1	Lump
03312003*	Remove & Replace Precast Concrete Lamp Post	4	Each
03925001*	Sidewalk, Curb & Concrete Handrail System Sealing	226	ft
03934001*	Pothole Patching	2,200	sq ft
03936001*	West Wall Areas Repair	1	Lump
07105001P	Waterproofing Membrane	792	sq yd
07925001*	Joint Crack Sealing	400	ft
165260010	Electrical Work Bridges	1	Lump

Detail	Alt Group	Alt #	Description
60 - LIGHTING	0	0	

Item Number	Description	Qty	Unit
16525001D	Bridge Lighting System	1	Lump

X. PDBS Detailed Stationing Summaries Report

Detailed Report

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SR-91; 600 SOUTH MAIN STREET, LOGAN

10 - ROADWAY **Alt Group: 0** **Alt #: 0** **Roadway**

Item Number	Description	Use Qty	Unit
018920050	**Reconstruct Manhole**	2	Each

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	493+93.50	30.00 RT.			1.0	
SR-91	494+14.40	42.70 RT.			1.0	
					2.0	

Item Number	Description	Use Qty	Unit
022220005	**Remove Concrete Sidewalk**	55	sq yd

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	490+72.00	LT.	491+36.60	LT.	35.89	
SR-91	492+43.50	LT.	492+50.11	LT.	5.85	
SR-91	492+94.00	LT.	493+04.00	LT.	8.33	
					50.07	

Item Number	Description	Use Qty	Unit
022220010	**Remove Concrete Driveway**	185	sq yd

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	490+54.00	39.00 LT.			23.0	
SR-91	493+66.90	39.00 LT.			32.0	
SR-91	494+16.60	39.00 RT.			62.0	
SR-91	494+27.30	39.00 LT.			67.0	
					184.0	

Item Number	Description	Use Qty	Unit
022220020	**Remove Concrete Curb and Gutter**	420	ft

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	489+95.00	41.50 LT.	490+38.00	41.50 LT.	43.0	
SR-91	489+95.00	41.50 RT.	490+74.00	41.50 RT.	79.0	
SR-91	490+70.00	41.50 LT.	490+74.00	41.50 LT.	4.0	
SR-91	490+74.00	41.50 RT.	490+94.00	36.50 RT.	21.0	
SR-91	490+74.00	41.50 LT.	491+38.00	36.50 LT.	64.0	
SR-91	492+90.00	41.50 LT.	493+51.73	41.50 LT.	87.0	
SR-91	493+06.50	36.50 RT.	493+58.50	41.50 RT.	52.0	
SR-91	493+58.50	41.50 RT.	493+92.50	41.50 RT.	34.0	
SR-91	493+81.64	41.50 LT.	494+04.39	41.50 LT.	23.0	
SR-91	494+40.30	41.50 RT.	494+50.00	41.50 RT.	10.0	
SR-91	494+49.60	41.50 LT.	494+50.00	41.50 LT.	0.0	
					417.0	

10 - ROADWAY **Alt Group: 0** **Alt #: 0** **Roadway**

Item Number	Description	Use Qty	Unit
02316002P	**Roadway Excavation (Plan Quantity)**	25	cu yd

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	489+95.00	LT.	490+38.00	LT.	1.59	
SR-91	489+95.00	RT.	490+74.00	RT.	2.93	
SR-91	490+70.00	LT.	490+74.00	LT.	1.33	
SR-91	490+74.00	RT.	490+94.00	RT.	0.76	
SR-91	490+74.00	LT.	491+38.00	LT.	2.38	
SR-91	492+90.00	LT.	493+51.73	LT.	3.77	
SR-91	493+06.50	RT.	493+58.50	RT.	1.93	
SR-91	493+58.50	RT.	493+92.50	RT.	1.26	
SR-91	493+81.64	LT.	494+04.39	LT.	1.95	
SR-91	494+40.30	RT.	494+50.00	RT.	2.13	
SR-91	494+49.60	LT.	494+50.00	LT.	1.69	
					21.72	

Item Number	Description	Use Qty	Unit
027050015	**Asphalt Pavement Sawing**	790	ft

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	489+95.00	RT.	489+95.00	LT.	78.0	
SR-91	489+95.00	LT.	490+38.00	LT.	43.0	
SR-91	489+95.00	RT.	490+74.00	RT.	79.0	
SR-91	490+70.00	LT.	490+74.00	LT.	36.0	
SR-91	490+74.00	RT.	490+94.00	RT.	21.0	
SR-91	490+74.00	LT.	491+38.00	LT.	64.0	
SR-91	492+43.12	LT.	492+87.06	LT.	44.0	
SR-91	492+90.00	LT.	493+51.73	LT.	102.0	
SR-91	493+06.50	RT.	493+58.50	RT.	52.0	
SR-91	493+58.50	RT.	493+92.50	RT.	34.0	
SR-91	493+81.64	LT.	494+04.39	LT.	53.0	
SR-91	494+40.30	RT.	494+50.00	RT.	58.0	
SR-91	494+49.60	LT.	494+50.00	LT.	46.0	
SR-91	494+50.00	RT.	494+50.00	LT.	78.0	
					788.0	

10 - ROADWAY **Alt Group: 0** **Alt #: 0** **Roadway**

Item Number	Description	Use Qty	Unit
027210080	**Untreated Base Course 3/4 inch or 1 inch Max**	36	cu yd

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	489+95.00	LT.	490+38.00	LT.	1.0	Curb and Gutter
SR-91	489+95.00	RT.	490+74.00	RT.	1.83	Curb and Gutter
SR-91	490+54.00	39.00 LT.			1.94	Driveway
SR-91	490+70.00	LT.	490+74.00	LT.	0.09	Curb and Gutter
SR-91	490+72.00	LT.	491+36.60	LT.	2.99	Sidewalk
SR-91	490+74.00	RT.	490+94.00	RT.	0.48	Curb and Gutter
SR-91	490+74.00	LT.	491+38.00	LT.	1.49	Curb and Gutter
SR-91	492+43.50	LT.	492+50.11	LT.	0.49	Sidewalk
SR-91	492+52.27	53.84 LT.			0.56	Pedestrian Ramp
SR-91	492+90.00	LT.	493+51.73	LT.	2.01	Curb and Gutter
SR-91	492+91.10	61.18 LT.			0.56	Pedestrian Ramp
SR-91	492+94.00	LT.	493+04.00	LT.	0.69	Sidewalk
SR-91	493+06.50	RT.	493+58.50	RT.	1.21	Curb and Gutter
SR-91	493+58.50	RT.	493+92.50	RT.	0.79	Curb and Gutter
SR-91	493+66.90	39.00 LT.			4.01	Driveway
SR-91	493+81.64	LT.	494+04.39	LT.	0.53	Curb and Gutter
SR-91	494+16.60	39.00 RT.			6.52	Driveway
SR-91	494+27.30	39.00 LT.			6.8	Driveway
SR-91	494+40.30	RT.	494+50.00	RT.	0.22	Curb and Gutter
SR-91	494+49.60	LT.	494+50.00	LT.	0.01	Curb and Gutter
					34.22	

10 - ROADWAY **Alt Group: 0** **Alt #: 0** **Roadway**

Item Number	Description	Use Qty	Unit
027410010	**HMA Mix - 1/2 inch**	525	Ton

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	489+95.000	Left	490+50.000	Left	53.84	
SR-91	489+95.000	Right	490+50.000	Right	52.09	
SR-91	490+50.000	Left	490+74.000	Left	20.69	
SR-91	490+50.000	Right	490+74.000	Right	18.82	
SR-91	490+74.000	Left	491+00.000	Left	20.49	
SR-91	490+74.000	Right	491+00.000	Right	17.71	
SR-91	491+00.000	Right	491+38.000	Right	20.88	
SR-91	491+00.000	Left	491+50.000	Left	33.77	
SR-91	491+50.000	Left	491+94.000	Left	23.6	
SR-91	492+50.000	Right	493+00.000	Right	27.24	
SR-91	493+00.000	Right	493+50.000	Right	34.61	
SR-91	493+06.500	Left	493+50.000	Left	24.38	
SR-91	493+50.000	Left	494+00.000	Left	37.62	
SR-91	493+50.000	Right	494+00.000	Right	41.97	
SR-91	494+00.000	Left	494+50.000	Left	47.88	
SR-91	494+00.000	Right	494+50.000	Right	49.33	
					524.92	

10 - ROADWAY **Alt Group: 0** **Alt #: 0** **Roadway**

Item Number	Description	Use Qty	Unit
027480030	**Emulsified Asphalt SS-1**	3	Ton

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	489+95.000	Left	490+50.000	Left	0.31	
SR-91	489+95.000	Right	490+50.000	Right	0.31	
SR-91	490+50.000	Left	490+74.000	Left	0.07	
SR-91	490+50.000	Right	490+74.000	Right	0.07	
SR-91	490+74.000	Left	491+00.000	Left	0.07	
SR-91	490+74.000	Right	491+00.000	Right	0.07	
SR-91	491+00.000	Right	491+38.000	Right	0.11	
SR-91	491+00.000	Left	491+50.000	Left	0.14	
SR-91	491+50.000	Left	491+94.000	Left	0.12	
SR-91	492+50.000	Right	493+00.000	Right	0.14	
SR-91	493+00.000	Right	493+50.000	Right	0.14	
SR-91	493+06.500	Left	493+50.000	Left	0.12	
SR-91	493+50.000	Left	494+00.000	Left	0.14	
SR-91	493+50.000	Right	494+00.000	Right	0.14	
SR-91	494+00.000	Left	494+50.000	Left	0.28	
SR-91	494+00.000	Right	494+50.000	Right	0.28	
					2.51	

Item Number	Description	Use Qty	Unit
02765005*	**Pavement Marking Paint**	3	gal

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	489+95.00	41.50 RT.	490+74.00	41.50 RT.	0.88	
SR-91	490+70.00	41.50 LT.	490+74.00	41.50 LT.	0.04	
SR-91	490+74.00	41.50 RT.	490+94.00	36.50 RT.	0.23	
SR-91	490+74.00	41.50 LT.	491+38.00	36.50 LT.	0.71	
SR-91	493+06.50	36.50 RT.	493+58.50	41.50 RT.	0.58	
SR-91	493+58.50	41.50 RT.	493+92.50	41.50 RT.	0.38	
					2.82	

10 - ROADWAY **Alt Group: 0** **Alt #: 0** **Roadway**

Item Number	Description	Use Qty	Unit

027680005 **4 inch Pavement Marking Tape - White** 250 ft

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	489+75.0		490+75.0		50.0	
SR-91	490+75.0		491+65.0		45.0	
SR-91	491+65.0		492+65.0		50.0	
SR-91	492+65.0		493+05.0		20.0	
SR-91	493+05.0		494+70.0		82.5	
					247.5	

027680010 **8 inch Pavement Marking Tape - White** 100 ft

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	491+65.0		492+65.0		100.0	
					100.0	

027680015 **4 inch Pavement Marking Tape - Yellow** 1,050 ft

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	489+75.0		490+75.0		50.0	Skip
SR-91	489+75.0		490+75.0		200.0	Solid
SR-91	490+75.0		491+65.0		180.0	Solid
SR-91	491+65.0		492+65.0		200.0	Solid
SR-91	493+05.0		494+70.0		82.5	Skip
SR-91	493+05.0		494+70.0		330.0	Solid
					1,042.5	

027680025 **Pavement Message (Tape)** 7 Each

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
600 S					2.0	Stop bar - Lane and Shoulder
600 S					5.0	Cross Walk - 2 lanes, 2 shoulders and median
					7.0	

10 - ROADWAY **Alt Group: 0** **Alt #: 0** **Roadway**

Item Number	Description	Use Qty	Unit

02771003P **Concrete Curb and Gutter** 420 ft

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	489+95.00	41.50 LT.	490+38.00	41.50 LT.	43.0	
SR-91	489+95.00	41.50 RT.	490+74.00	41.50 RT.	79.0	
SR-91	490+70.00	41.50 LT.	490+74.00	41.50 LT.	4.0	
SR-91	490+74.00	41.50 RT.	490+94.00	36.50 RT.	21.0	
SR-91	490+74.00	41.50 LT.	491+38.00	36.50 LT.	64.0	
SR-91	492+90.00	41.50 LT.	493+51.73	41.50 LT.	87.0	
SR-91	493+06.50	36.50 RT.	493+58.50	41.50 RT.	52.0	
SR-91	493+58.50	41.50 RT.	493+92.50	41.50 RT.	34.0	
SR-91	493+81.64	41.50 LT.	494+04.39	41.50 LT.	23.0	
SR-91	494+40.30	41.50 RT.	494+50.00	41.50 RT.	10.0	
SR-91	494+49.60	41.50 LT.	494+50.00	41.50 LT.	0.0	
					417.0	

02771004P **Concrete Driveway Flared, 6 inch Thick** 1,170 sq ft

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	493+66.90	39.00 LT.			433.0	
SR-91	494+27.30	39.00 LT.			734.0	
					1,167.0	

02771005P **Concrete Driveway Flared, 7 inch Thick** 915 sq ft

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	490+54.00	39.00 LT.			210.0	
SR-91	494+16.60	39.00 RT.			704.0	
					914.0	

02771006P **Pedestrian Access Ramp Type A** 60 sq ft

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	492+91.10	61.18 LT.			60.0	
					60.0	

10 - ROADWAY **Alt Group: 0** **Alt #: 0** **Roadway**

Item Number	Description	Use Qty	Unit
02771007P	**Pedestrian Access Ramp Type C**	60	sq ft

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	492+52.27	53.84 LT.			60.0	
					60.0	

Item Number	Description	Use Qty	Unit
02776001P	**Concrete Sidewalk**	455	sq ft

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	490+72.00	LT.	491+36.60	LT.	323.0	
SR-91	492+43.50	LT.	492+50.11	LT.	52.66	
SR-91	492+94.00	LT.	493+04.00	LT.	75.0	
					450.66	

10 - ROADWAY **Alt Group: 0** **Alt #: 0** **Roadway**

Item Number	Description	Use Qty	Unit
027860010	**Open Graded Surface Course**	165	Ton

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	489+75.000	Left	489+95.000	Left	4.225	
SR-91	489+75.000	Right	489+95.000	Right	4.23	
SR-91	489+95.000	Left	490+50.000	Left	11.619	
SR-91	489+95.000	Right	490+50.000	Right	11.619	
SR-91	490+50.000	Left	490+74.000	Left	5.07	
SR-91	490+50.000	Right	490+74.000	Right	5.07	
SR-91	490+74.000	Left	491+00.000	Left	5.493	
SR-91	490+74.000	Right	491+00.000	Right	5.493	
SR-91	491+00.000	Right	491+38.000	Right	8.028	
SR-91	491+00.000	Left	491+50.000	Left	10.563	
SR-91	491+50.000	Left	491+94.000	Left	9.295	
SR-91	492+50.000	Right	493+00.000	Right	10.563	
SR-91	493+00.000	Right	493+50.000	Right	10.56	
SR-91	493+06.500	Left	493+50.000	Left	9.189	
SR-91	493+50.000	Left	494+00.000	Left	10.563	
SR-91	493+50.000	Right	494+00.000	Right	10.563	
SR-91	494+00.000	Left	494+50.000	Left	10.563	
SR-91	494+00.000	Right	494+50.000	Right	10.563	
SR-91	494+50.000	Left	494+70.000	Left	4.225	
SR-91	494+50.000	Right	494+70.000	Right	4.225	
					161.719	

10 - ROADWAY **Alt Group: 0** **Alt #: 0** **Roadway**

Item Number	Description	Use Qty	Unit
027860020	**Asphalt Cement PG 64-34**	11	Ton

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	489+75.000	Left	489+95.000	Left	0.26	
SR-91	489+75.000	Right	489+95.000	Right	0.26	
SR-91	489+95.000	Left	490+50.000	Left	0.72	
SR-91	489+95.000	Right	490+50.000	Right	0.72	
SR-91	490+50.000	Left	490+74.000	Left	0.31	
SR-91	490+50.000	Right	490+74.000	Right	0.31	
SR-91	490+74.000	Left	491+00.000	Left	0.34	
SR-91	490+74.000	Right	491+00.000	Right	0.34	
SR-91	491+00.000	Right	491+38.000	Right	0.5	
SR-91	491+00.000	Left	491+50.000	Left	0.65	
SR-91	491+50.000	Left	491+94.000	Left	0.58	
SR-91	492+50.000	Right	493+00.000	Right	0.65	
SR-91	493+00.000	Right	493+50.000	Right	0.65	
SR-91	493+06.500	Left	493+50.000	Left	0.57	
SR-91	493+50.000	Left	494+00.000	Left	0.65	
SR-91	493+50.000	Right	494+00.000	Right	0.65	
SR-91	494+00.000	Left	494+50.000	Left	0.65	
SR-91	494+00.000	Right	494+50.000	Right	0.65	
SR-91	494+50.000	Left	494+70.000	Left	0.26	
SR-91	494+50.000	Right	494+70.000	Right	0.26	
					9.98	

028910005	**Remove Sign**	1	Each

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	494+07.97	46.15 LT.			1.0	R2-1 (45 MPH)
					1.0	

028910025	**Sign Type A-I, 12 inch X 18 inch**	2	Each

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	490+76.50	47.5 LT.			1.0	R 7-1 with T1 post
SR-91	493+85.00	44.0 RT.			1.0	R 7-1 with T1 post
					2.0	

Detailed Report

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SR-91; 600 SOUTH MAIN STREET, LOGAN

10 - ROADWAY **Alt Group: 0** **Alt #: 0** **Roadway**

Item Number	Description	Use Qty	Unit
028910050	**Sign Type A-I, 24 inch X 30 inch**	1	Each

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91			494+54.00	47.27 LT.	0.0	R2-1 (45 MPH)
					0.0	

Item Number	Description	Use Qty	Unit
029610020	**Rotomilling - 1 Inch**	10	sq yd

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	489+75.000	Left	489+95.000	Left	2.41	
SR-91	489+75.000	Right	489+95.000	Right	2.41	
SR-91	494+50.000	Left	494+70.000	Left	2.41	
SR-91	494+50.000	Right	494+70.000	Right	2.41	
					9.64	

Item Number	Description	Use Qty	Unit
02961006P	**Rotomilling - 5 1/2 Inch**	3,000	sq yd

Line/Sheet	From Station	From Offset	To Station	To Offset	Qty	Comment
SR-91	489+95.000	Left	490+50.000	Left	238.33	
SR-91	489+95.000	Right	490+50.000	Right	238.33	
SR-91	490+50.000	Left	490+74.000	Left	104.0	
SR-91	490+50.000	Right	490+74.000	Right	104.0	
SR-91	490+74.000	Left	491+00.000	Left	112.67	
SR-91	490+74.000	Right	491+00.000	Right	112.67	
SR-91	491+00.000	Right	491+38.000	Right	164.67	
SR-91	491+00.000	Left	491+50.000	Left	216.67	
SR-91	491+50.000	Left	491+94.000	Left	190.67	
SR-91	492+50.000	Right	493+00.000	Right	216.67	
SR-91	493+00.000	Right	493+50.000	Right	216.67	
SR-91	493+06.500	Left	493+50.000	Left	188.5	
SR-91	493+50.000	Left	494+00.000	Left	216.67	
SR-91	493+50.000	Right	494+00.000	Right	216.67	
SR-91	494+00.000	Left	494+50.000	Left	216.67	
SR-91	494+00.000	Right	494+50.000	Right	216.67	
					2,970.53	

XI. Special Provisions

Feb. 10, 2003

SPECIAL PROVISION
SP-0091(18)26

SECTION 00555M

PROSECUTION AND PROGRESS

PART 1 GENERAL

1.12 LIMITATION OF OPERATIONS

A. Minimize traffic interference:

Add the following subsections:

3. Traffic control must allow at least one lane of traffic in each direction at all times.

4. Signing will be placed before the project warning motorists of traffic delays. Alternate routes that can be used must also be identified.

5. The Contractor will use concrete barrier to protect work zones across bridge structures.

6. Traffic control must include two variable message boards to warn motorists of construction activity.
   a. The variable message boards must be in place 2 weeks before starting construction activities.
   b. The placement of these message boards will be on SR-91 warning motorists of the construction activities and identify alternate routes around the construction area.
   c. The cost of the variable message boards will be included in the traffic control item.
   d. The location of the variable message boards can be moved to different locations as directed by the Engineer at no additional cost.

7. Do not permit traffic to travel on any rotomilled surface. Minimize construction traffic on milled surface. Any construction traffic over the legal weight limit will not be permitted on any rotomilled surface.

Add the following section:

D. The project is to be completed in 70 working days.

Feb. 10, 2003

SPECIAL PROVISION
SP-0091(18)26

SECTION 00725M

SCOPE OF WORK

Add the following to Section **1.2 INTENT OF CONTRACT:**

B. This project generally involves the following:
   1. Removal of asphalt surfacing on bridge, sidewalk, lighting, and hand-rail system.
   2. Pothole patching and concrete repair.
   3. Resurfacing of bridge with waterproofing membrane, HMA, and open graded surface course.
   4. Reconstructing the sidewalk, lighting and hand railing system to match existing, so historical aesthetics of bridge are not lost.
   5. Match roadway elevation to bridge elevation and adjust drainage to match new bridge elevation.
   6. Traffic striping.

C. The project limits begin at SR-91 reference post 25.943, roughly 175' south of the structure. The project limits end at SR-91 reference post 26.016, roughly 175' north of the structure. The length of the project is approximately 495 feet.

Feb. 10, 2003

SPECIAL PROVISION
SP-0091(18)26

SECTION 00727M

CONTROL OF WORK

Add the following to subsection **1.7 COOPERATION WITH UTILITIES**

H. Contact Utility Company representatives as soon as the Notice to Proceed is given to inform them when work will commence on the project. Invite representatives to the Preconstruction Conference to coordinate schedules.

I. Questar Gas Company has a 4" Steel IHP Gas Line attached to the west side of the structure. Questar will take the gas line out of service, detach it from the structure, support it, and reattach it to the spandrel wall upon completion of the required work. Contact Rod Hobbs (435) 755-2282 at least 10 days before construction is scheduled to begin.

J. Logan Light and Power. Contact 7 days before power is to be hooked up for lights on the bridge. Contact Garth Turley at (435) 716-9741.

K. Other utility contacts:

Utility Contact List

Company	Representative	Address	Telephone No.
Logan City	Ron Johnson, Assistant City Engineer	255 North Main St. Logan, UT 84323-0527	(435) 716–9161 FAX (435) 716-9001 rjohnson@loganutah.org
Logan City Power	Garth Turley, Electric Engineering Manager	950 West 600 North Logan, Utah 84321	(435) 716-9741 FAX (435) 716-9701 gturley@loganunah.org
Qwest Corporation	Mr. Jeff Stapley CP Field Engineer	1425 West 3100 South Salt Lake City, Utah 84119	(801) 974-8505 FAX (801) 974-8160 jxstapl@uswest.com

Questar Gas Company Construction Contact	Mr. Kyle Secretan Project Coordinator Rod Hobbs	1140 West 200 South P.O. Box 45360 Salt Lake City , Utah 84145	(801) 324-3389 FAX (801) 324-3345 KyleS@questar.com (435) 755-2282

February 14, 2003

SPECIAL PROVISION

SP-0091(18)26

SECTION 02626M

DECK DRAIN MODIFICATION OR CLOSURE

Delete Article 1.1 and replace with the following:

1.1 SECTION INCLUDES

A. Close existing slab "pipe drains", at specified locations.

Delete Part 3 and replace with the following:

PART 3 EXECUTION

3.1 PREPARATION

A. Verify plan for the existing pipe type and dimension before choosing a metal cap.

B. Weld the metal cap to each designated existing drain pipe. Field weld all around the metal cap.

3.2 INSTALLATION

A. Deck Drain Closure: Close the slab drains as shown in the plans under "Pipe Drain Closure Detail" prior to placing waterproofing membrane and new asphalt surfacing.

END OF SECTION

Feb. 4, 2002

SPECIAL PROVISION
Project No. SP-0091(18)26

SECTION 02742 S

PROJECT SPECIFIC SURFACING REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Required PG Asphalt or emulsion.

B. Number of gyrations to use for Superpave Mix Design.

PART 2 PRODUCTS

2.1 MIXES

A. Hot Mix Asphalt (HMA): (Refer to bid item for size)

1. PG 64 - 34 Asphalt.

2. $N_{initial}$ 8 N_{design} 100 N_{final} 160

B. Open-Graded Surface Course:

1. PG 64 - 34 Asphalt.

C. Chip Seal

1. Type of asphalt emulsion N.A.

PART 3 EXECUTION **Not used.**

END OF SECTION

August 15, 2002

SPECIAL PROVISION

PROJECT # SP-0091(18)26

SECTION 02765S

PAVEMENT MARKING PAINT

Delete Section 02765 and replace with the following:

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Furnish Acrylic Water Based pavement marking paint meeting Federal Specification TTP-1952 D. And refer to 2.1 for resin requirement.

B. Apply to asphaltic or concrete pavement as edge lines, center lines, broken lines, guide lines, symbols and other related markings.

C. Remove pavement markings.

1.2 REFERENCES

A. AASHTO M 247: Glass Beads Used in Traffic Paint.

B. ASTM D 562: Consistency of Paints Measuring Krebs Unit (KU) Viscosity Using the Stormer-Type Viscometer.

C. ASTM D 711: No-Pick-Up Time of Traffic Paint.

D. ASTM D 2205: Selection of Tests for Traffic Paints

E. ASTM D 2743: Uniformity of Traffic Paint Vehicle Solids by Spectroscopy and Gas Chromatography.

F. ASTM D 3723: Pigment Content of Water-Emulsion Paints

G. ASTM D 3960: Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.

H. ASTM D 4451: Pigment Content of Paints

I. ASTM D 5381: X-Ray Fluorescence (XRF) Spectroscopy of Pigments and Extenders.

J. Federal Standards 595B, 37875, 33538, 11105 and TTP-1952 D.

1.3 ACCEPTANCE

A. UDOT ENGINEER:
1. Randomly samples pavement marking paint and submits to Central Chemistry Lab for acceptance.
2. Randomly generates the location of each test and removes all loose or excess beads from the line prior to testing.
3. Visually inspects each line to verify bead adhesion and compliance with specified line dimensions requirements.
4. Verifies that the paint and beads are being applied within specified tolerances a minimum of once each production day.
5. Verify quantities used by measuring both paint and bead tanks prior to and after application.

B. Repaint any line or symbol failing to meet bead adherence and dimensional requirements.

C. Repaint any line or symbol failing to meet the minimum application requirements for paint or beads.

PART 2 PRODUCTS

2.1 PAINT

A. Choose an approved pavement marking paint from the UDOT Research Division "Accepted Products Listing." Follow Federal Standards 595B, 37875, 33538, and 11105. Meet the following requirements for Acrylic Water Based Paint:

CIELAB (L*a*b*) D65/10E		
White	**Yellow**	**Red**
L* 91.9 to 95.6	L* 70.0 to 72.7	L* 31.4 to 33.4
a* -1.8 to -2.1	a* 22.5 to 24.8	a* 51.6 to 52.6
b* 3.8 to 2.2	b* 89.7 to 73.9	b* 34.1 to 35.1

1. No-track time: Not more than 5 minutes when tested according to ASTM D 711.
2. Volatile Organic Compounds Content: Less than 1.25 lbs/gal ASTM D 3960.
3. Free of lead, chromium, or other related heavy metals ASTM D 5381.
4. Pigment: Percent by weight: Acrylic Water Based minimum of 62.0 ± 2.0 ASTM D 3723.
5. Total Solids: Percent by weight: Acrylic Water Based minimum of 77.0 ASTM D 2205.
6. Acrylic water based paint must contain a minimum of 40 percent, by weight, 100 percent acrylic cross-linkable emulsion as determined by infrared analysis and other chemical analysis available to UDOT. ASTM D 2205
7. ASTM D 562, ASTM D 2743, ASTM D 4451 and ASTM D 5381: Tests used to verify paint samples meet "Accepted Products Listing".

2.2 GLASS SPHERE (BEADS) USED IN PAVEMENT MARKING PAINT

A. Specific Properties:
   1. Meet AASHTO M 247.
   2. Meet type II, uniform gradation.

PART 3 EXECUTION

3.1 PREPARATION

A. Line Control.
   1. Establish control points at 100 ft intervals on tangent and at 50 ft intervals on curves.
   2. Maintain the line within 2 inches of the established control points and mark the roadway between control points as needed.
      a. Remove paint that is not placed within tolerance of the established control points and replace at no expense to the Department. Refer to article 3.4.

B. Remove dirt, loose aggregate and other foreign material and follow manufacturer's recommendations for surface preparation.

3.2 APPLICATION

A. Pavement Marking Paint: Apply at the following rates:
   1. 4 inch Solid Line: From 270 to 350 ft/gal
   2. 4 inch Broken Line: From 1080 to 1400 ft/gal
   3. 8 inch Solid Line: From 135 to 175 ft/gal

B. Replace pavement markings that are less than 14 wet mils in thickness.

C. No payment for pavement markings placed in excess of 18 wet mils in thickness.

D. Painted Legends and Symbols 1 gallon per 100 square feet.

E. Glass Sphere (Beads): Apply a minimum of 8 lbs/gal of paint, the full length and width of line and pavement markings.

F. Begin striping operations no later than 24 hours after ordered by the Engineer.

G. At time of application apply lines and pavement markings only when the air and pavement temperature are:
   1. 50 degrees F and rising for Acrylic Water Based Paint.

H. Comply with Traffic Control Drawing TC16

3.3 CONTRACTOR QUALITY CONTROL

A. Application Rate: Verify that the paint and beads are being applied within specified tolerances prior to striping.

3.4 REMOVE PAVEMENT MARKINGS

A. Use one of these removal methods:
   1. Grinding
   2. High pressure water spray
   3. Sand blasting
   4. Shot blasting.

B. Use equipment specifically designed for removal of pavement marking material.

END OF SECTION

February 27, 2003

SPECIAL PROVISION

SP-0091(18)26

SECTION 03312S

STRUCTURAL CONCRETE RECONSTRUCTION

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Materials and procedures for reconstructing structural concrete in:
   1. Remove & Replace Concrete Handrail System
   2. Remove & Replace Concrete Sidewalk & Curb
   3. Remove & Replace Precast Concrete Lamp Post

1.2 RELATED SECTIONS

A. Section 03311: Structural Concrete.

B. Section 02316: Roadway Excavation.

C. Section 02317: Structural Excavation.

D. Section 02841: Traffic Barriers.

E. Section 03055: Portland Cement Concrete.

F. Section 03152: Concrete Joint Control.

G. Section 03211: Reinforcing Steel and Welded Wire.

H. Section 03390: Concrete Curing.

I. Section 02221: Remove Structure and Obstruction.

1.3 REFERENCES

A. AASHTO M 111: Zinc (Hot-dip Galvanized) Coatings on Iron and Steel Products.

B. AASHTO M 148: Liquid Membrane-Forming Compounds for Curing Concrete.

C. AASHTO M 183: Structural Steel.

D. AASHTO M 153: Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction.

E. AASHTO M 213: Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types).

F. AASHTO M 235: Epoxy Resin Adhesives.

G. ASTM C 578: Rigid, Cellular Polystyrene Thermal Insulation.

1.4 SUBMITTALS

A. Falsework Drawing: When required in the contract, submit three copies (prepared by a licensed engineer) for approval at least three weeks before construction starts.

B. Use AASHTO Division II Section 3 (Temporary Work) for minimum design criteria.

PART 2 PRODUCTS

2.1 CONCRETE

A. Class AA(AE) concrete, unless specified otherwise.

B. Refer to Section 03055.

C. Use ¾" (max. nominal size) aggregate.

2.2 REINFORCING STEEL AND WELDED WIRE (COATED)

A. Refer to Section 03211, Part 2.

2.3 JOINTS AND SEALERS

A. Pre-Molded Joint Filler meeting AASHTO M 153.
   1. Concrete Slope Protection: Refer to Section 03152, Part 2, article, "Silicone Joint Sealer."

B. Preformed Joint Filler: AASHTO M 213.

2.4 CURING COMPOUND

A. As specified. AASHTO M 148, Type I-D, Class A.

2.5 FORMS

A. Plywood, wood, metal, glass, or a combination of these materials.

2.6 ANCHOR BOLTS

A. Meet AASHTO M 213.

PART 3 EXECUTION

3.1 PREPARATION

A. Falsework
   1. Construction:
      a. Use materials able to sustain the stresses required by the falsework design.
      b. Use suitable jacks or wedges to set the forms to the grade or camber required, and to prevent settling.
      c. Produce a finished structure of the specified camber, and built to the lines and grades indicated.

   2. Footing Construction:
      a. Build falsework on a solid footing that is safe against undermining, protected from softening, and capable of supporting any imposed loads.
      b. Demonstrate that the soil bearing values do not exceed the supporting capacity of the soil. (Conduct test loads or have soils investigation conducted by a licensed engineer.)

c. Use piling or caissons to support falsework that cannot be founded on a solid footing.
d. Space, drive, and remove piles following approved falsework drawings.

B. Forms
1. Use mortar-tight concrete forms, true to the dimensions, lines, and grades of the structure, and of sufficient strength to prevent deflection during the placement of concrete.
2. Discontinue using any form or forming system that produces a concrete surface with excessive undulations until modifications have been made. Undulations are excessive if they exceed either 1/8 inches or 1/270 of the center-to-center distance between studs, joints, forms, fasteners, or wales.
3. Countersink all bolt and rivet holes when using metal forms for exposed surfaces so that a plane, smooth surface of the desired contour is obtained.
4. Use lumber that is free of knotholes, loose knots, cracks, splits, warps, or other defects that affect the strength or appearance of the structure. Rough lumber may be used for forming surfaces if visible rough surfaces do not show on the final structure.
5. Form all exposed surfaces of each element of a concrete structure with the same forming material or with such materials that produce a concrete surface that is uniform in texture, color, and appearance.
6. Clean the inside surface of forms of all dirt, mortar, and foreign material before concrete placement.
7. Use form oil that permits the ready release of the forms and does not discolor the concrete.
8. Do not place concrete in the forms until:
   a. All work connected with form construction has been completed.
   b. All embedded materials have been placed.
   c. All dirt, chips, sawdust, water, and other foreign materials have been removed.
   d. Inspection and approval have been obtained.
9. Do not use stay-in-place deck forms.

C. Footings
1. Earthwork: Refer to Section 02316.
2. The Engineer may direct written changes in dimensions or elevations necessary to secure a satisfactory foundation.
3. Do not dewater by pumping during concrete placement, or for 24 hours thereafter, unless pumping is outside the enclosure. Do not use well points to dewater footing.

3.2 PLACING CONCRETE

A. Remove struts, stays, and braces that hold the forms in correct shape and alignment when no longer necessary.

B. Mix and place concrete within the limitations specified in Section 03055.

C. Do not deviate from the placement schedule without written approval.

D. If the concrete cannot be protected during adverse weather, the Engineer may postpone placement operations.

E. Observe the following precautions when handling concrete:
   1. Avoid segregation of the ingredients.
   2. Arrange chutes, troughs, or pipes used as aids in placing concrete so the concrete does not separate.
   3. Use metal or metal-lined chutes and troughs. (Do not use aluminum.)
   4. Equip chutes with baffle boards or a reversed section at the end of the outlet when placing on steep slopes.
   5. Extend open troughs and chutes down inside the forms or through holes left in the forms; terminate the ends in vertical downspouts.
   6. Thoroughly flush all chutes, troughs, and pipes with water before and after each placement.
   7. Do not allow the free-fall of concrete to exceed 10 ft for thin walls (maximum 10 inch thickness) or 5 ft for other types of construction without the use of a tremie or a flexible metal spout.
   8. Use flexible metal spout sections composed of conical sections not more than 3 ft long, with the diameter of the outlet and the taper of the various sections such that the concrete does fill the outlet and retard concrete flow.

F. Observe the following precautions when placing concrete:
   1. Deposit concrete as close as possible to its final position, without allowing it to flow laterally in the form.
   2. Spread fresh concrete in horizontal layers with thickness not greater than what can be compacted with vibrators.
   3. Do not use vibrators to flow concrete laterally.
   4. Limit placement interruptions to 45 minutes.
   5. Place and compact each layer before the preceding layer has taken initial set.
   6. Do not place concrete in water flowing under head within the area of a footing.
   7. Pass the screed over the area with a screed face device to measure the cover before concrete placement.

8. Relocate and tie reinforcing steel that projects above the specified level before placing the concrete.
9. Raise and support reinforcing steel that is more than 1/4 inch below the specified level before placing the concrete.
10. Firmly support screed rails for bridge deck slabs to prevent movement during concrete placement. When using a finishing machine, support the machine rails on the bridge beams. (Do not place the machine rails on the forms unless the form supports have been strengthened and the Engineer gives written approval.)

G. Observe the following precautions when compacting concrete:
1. Use high frequency internal vibrators to compact all concrete for structures (except concrete placed under water).
2. Supply enough vibrators to compact the fresh concrete to the desired degree within 15 minutes after it is deposited in the forms.
3. Supply at least two vibrators for structures involving more than 25 cubic yards of concrete.
4. Do not attach vibrators to or against the forms or the reinforcing steel.
5. Do not allow vibrators to penetrate layers of concrete that have taken initial set.
6. Use spades or wedge-shaped tampers to secure a smooth and even texture of the exposed surface.

3.3 LIMITATIONS

A. Place all concrete possible in daylight.

B. If either mixing, placing, or finishing occurs after daylight hours, light the work site so all operations are plainly visible. Refer to Section 00555, article, "Limitation of Operations."

C. Keep all traffic off concrete bridges and culverts for 21 days after final concrete placement.

D. Hot and Cold Weather Limitations: Refer to Section 03055, Part 3.

3.4 CONCRETE SURFACE FINISHING CLASSIFICATIONS

A. Ordinary Surface Finish: A true and uniform finished surface.

B. Rubbed Finish: A surface smooth in texture and uniform in appearance, free of all form marks or irregularities.

C. Wire Brush or Scrubbed Finish:
   1. A finished surface with the cement surface film completely removed and the aggregate particles exposed leaving an even-pebbled texture.
   2. An appearance ranging from fine granite to coarse conglomerate depends on the size and grading of the aggregate used.

D. Floated Surface Finish:
   1. For flat work: strike off and use a floated surface finish.
   2. For bridge decks and approach slabs: machine finish only.

3.5 CONCRETE SURFACE FINISHING

A. Give all formed concrete surfaces at least an Ordinary Surface Finish except as specified otherwise.

B. Use other types of finishes as required in addition to the Ordinary Surface Finish.

C. Provide a Rubbed Finish for all surfaces that cannot meet Ordinary Surface Finish requirements due to irregularities, honeycombing, excessive surface voids, discoloration, and other defects.

3.6 CONCRETE SURFACE FINISHING PROCEDURES

A. Ordinary Surface Finish:
   1. After removing forms, remove all fins and projections.
      a. Clean, point, and true all honeycomb spots, broken corners or edges, cavities made by form ties, and other holes and defects.
      b. Keep all areas to receive mortar saturated with water for at least 30 minutes before mortar placement.
   2. For pointing, use a mortar of cement and fine aggregate, not more than 1 hour old, mixed in the proportions used in the grade of concrete being finished.
   3. Cure the mortar patches and rub to blend with surrounding concrete.
   4. Tool and free all joints of mortar and concrete. Leave the full length of the joint filler exposed with clean and true edges.

B. Rubbed Finish:
   1. Wet the surface of concrete while still green, paint with grout, and rub with a wooden float until the surface is covered with a lather of cement and water.
      a. A thin grout (1 part cement, 1 part fine sand) may be used in the rubbing.

b. Let this lather set for at least 5 days, then rub lightly with a fine carborundum stone until smooth.

2. For hardened concrete, use a mechanically operated carborundum stone to finish the surface at least 4 days after placing.
   a. Finish in the same manner as above; however, let the lather set for at least 15 days before lightly rubbing with a fine carborundum stone until smooth.
3. Commercial grade rubbing mortar may be used if approved by Engineer.

C. Wire Brush or Scrubbed Finish:
1. After the forms are removed and the concrete is green, scrub the surface with stiff wire or fiber brushes using a solution of muriatic acid (1 part acid, 4 parts water).
2. Once the scrubbing produces the desired texture, wash the entire surface.
3. Use water mixed with 5 percent by volume ammonium hydroxide to remove all traces of the acid.

D. Floated Surface Finish on flat work other than bridge decks and approach slabs:
1. Striking Off:
   a. After compaction, carefully rod and strike off the surface with a strike board following the cross sections and grades shown on the plans.
   b. Allow for camber as required.
   c. Operate the strike board longitudinally or transversely and move it forward with a combined longitudinal and transverse motion, ensuring that neither end is raised from the side forms during the process.
   d. Keep a slight excess of concrete in front of the cutting edge at all times.
2. Floating:
   a. Use longitudinal, or transverse floating, or both to create a uniform surface.
   b. Longitudinal floating is required except in places where it is not feasible.
3. Longitudinal Floating:
   a. Work the longitudinal float, operated from foot bridges, with a sawing motion while holding it parallel to the road centerline.
   b. Pass gradually from one side of the pavement to the other. Move the float forward one-half of its length and repeat operation.
   c. Substitute machine floating, if equivalent results are produced.
4. Transverse Floating:
   a. Operate the transverse float across the concrete surface by starting at the edge and slowly moving to the center and back again to the edge.

b. Move the float forward one-half of its length and repeat the operation.
c. Preserve the crown and cross section of the concrete surface.

5. Straightedging:
   a. Test the concrete surface for trueness with a straightedge after the longitudinal floating has been completed and the excess water has been removed, but while the concrete is still plastic.
   b. Furnish and use an accurate 10 ft straightedge held parallel to the road centerline in contact with the surface.
   c. Check the entire area, immediately filling depressions with freshly mixed concrete, then strike off, consolidate, and refinish.
   d. Cut down and refinish high areas.
   e. Continue the straightedge testing and re-floating until the concrete surface is at the required grade and contour.

3.7 CURING STRUCTURES

A. Refer to Section 03390, Part 3.

3.8 FORM REMOVAL

A. Obtain approval before removing forms.

B. Remove all forms from the concrete surfaces.

C. Do not use any method of form removal likely to cause overstressing of the concrete.

D. Remove supports to permit the concrete to uniformly and gradually take the stresses due to its own weight.

E. Do not remove forms used in ornamental work, railings, parapets, and exposed vertical surfaces for at least 6 hours after placement.

F. Removing falsework:
   1. Keep falsework and forms in place under slabs, beams, and girders for 14 days after the day of last concrete placement. Forms for slabs having clear space of less than 10 ft may be removed after 7 days.
   2. In cold weather, keep forms and falsework in place as approved in the written plan for cold weather concrete.

G. Patch formed surfaces within 24 hours after form removal:

1. Cut back and remove all projecting wire or metal devices used for holding the forms in place and that pass through the body of the concrete at least 1 inch beneath the surface of the concrete.
2. Remove lips of mortar and all irregularities caused by form joints.
3. Fill all small holes, depressions, and voids with cement mortar mixed in the same proportions as that used in the body of the work.
4. To patch larger holes or honeycombs, obtain a solid uniform surface by chipping away coarse or broken material.
5. Cut away feathered edges to form faces perpendicular to the surface.
6. Cover with epoxy-adhesive coating as specified. AASHTO M 235, Type II
7. Fill the cavity with stiff mortar composed of 1 part Portland Cement to 2 parts sand thoroughly tamped into place.
8. Pre-shrink the mortar by mixing it approximately 20 minutes. Vary the time according to manufacturer's recommendations, temperature, humidity, and other local conditions.
9. Float the surface of this mortar with a wooden float before initial set.
10. Keep the patch wet for 5 days.
11. After curing, rub patches on exposed surfaces to blend them with surrounding concrete.
12. Add coarse aggregate to the patching material when patching large or deep areas.
13. Make a dense, well-bonded, and properly cured patch.

H. Reject areas with honeycomb. After receiving written notice of rejection, remove and rebuild the structure in part or wholly, as specified, at no additional cost to the Department.

3.9 MISCELLANEOUS CONSTRUCTION

A. Anchor Bolts: Securely and accurately set all necessary anchor bolts in the pylon pedestals as the concrete is being placed.

3.10 CLEANING

A. Clean up by removing all falsework and falsework piling, (down to 2 ft below the finished ground line) rubbish, and temporary building materials before final inspection.

B. Avoid polluting and/or dumping any material into river below.

END OF SECTION

February 14, 2003

SPECIAL PROVISION

SP-0091(18)26

SECTION 03925S

SIDEWALK, CURB & CONCRETE HANDRAIL SYSTEM SEALING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Clean concrete and apply sealer to entire sidewalk, curb & concrete handrail system (front, top, and back).

PART 2 PRODUCTS

2.1 CONCRETE SEALER

A. Non-penetrating type sealer.
B. Use an approved concrete epoxy sealer product from the Qualified Products Listing (QPL) available from the UDOT Research Division @www.dot.utah.gov/res.

PART 3 EXECUTION

3.1 APPLICATION

A. Sandblast the entire exposed surfaces clean of all dirt, grease, and laitance while protecting the river from all particles.
B. Coat the entire exposed surfaces with the non-penetrating type epoxy concrete sealer following the manufacturer's application procedures and recommendations. Concrete color must stay the same after epoxy sealer application.

END OF SECTION

Feb. 25, 2003

SPECIAL PROVISION
SP-0091(18)26

SECTION 03934 M

STRUCTURAL POTHOLE PATCHING

PART 3 EXECUTION

3.1 PREPARATION

Add the following subsections:

B. After preparation (removal of asphalt surfacing, cleaning, etc.) of bridge deck for repair, the Department will be allowed a maximum of three working days for evaluation and inspection of the deck before the Contractor begins any repair work.

February 14, 2003

SPECIAL PROVISION

SP-0091(18)26

SECTION 03936S

WEST WALL AREAS REPAIR

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Restore to sound condition the west wall areas. West wall repair areas consist of: wingwalls, pylon walls, spandrel wall, and haunches.

1.2 RELATED SECTIONS

A. Section 03922: Delamination Repair

B. Section 03935: Epoxy Injection and Sealing

PART 2 PRODUCTS

2.1 MATERIALS

A. Refer to Sections 03922 and 03935.

2.2 SURFACE SEALING MATERIAL

A. Non-penetrating type sealer.

B. Use an approved concrete epoxy sealer product from the Accepted Products Listing available at http://www.dot.utah.gov/res.

PART 3 EXECUTION

3.1 REPAIR AREAS

A. The Engineer will sound the outside west wall, and identify the true areas for delamination and crack repair work.

3.2 CRACK REPAIR

A. Repair cracks from 1/64 inch to 1/4 inch wide by epoxy injection and sealing. See Section 03935.

B. Repair cracks greater than 1/4 inch wide as "delaminated concrete."

3.3 DELAMINATION REPAIR

A. Repair delaminated concrete by delamination repair. Refer to Section 03922.

B. After concrete removal:
   1. Repair any crack found in a delaminated area according to Section 03935. Repair any crack that may stand-alone according to Section 03935.
   2. After the injection operation, apply surface sealing after repairing the delaminated area.

C. Surface sealing after crack injection and delamination repair operations:
   1. Use epoxy sealer for surface sealing exclusively.
   2. Apply sealer to a minimum length of 2 ft beyond covering repair surface areas in each direction.
   3. Concrete color must stay the same after epoxy sealer application.

END OF SECTION

February 14, 2003

SPECIAL PROVISION

SP-0091(18)26

SECTION 07925S

JOINT CRACK SEALING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Clean and seal designated joints.

1.2 RELATED SECTIONS

A. Section 03152: Concrete Joint Control.

1.3 REFERENCES

A. ASTM D 3405: Joint Sealants, Hot-Applied, for Concrete and Asphalt Pavements.

B. ASTM D 3406: Joint Sealant, Hot-Applied, Elastomeric-Type, for Portland Cement Concrete Pavements.

1.4 CERTIFICATION

A. Submit the manufacturer's certification of compliance for all shipments.

1.5 DELIVERY

A. Deliver packaged material in unopened packages with labels clearly indicating the following:
   1. Name of manufacturer
   2. Manufacturer's product name or product number
   3. Manufacturer's batch or lot number

4. The application temperature range
5. The recommended application temperature and the safe heating temperature range

PART 2 PRODUCTS

2.1 MATERIALS

A. Backer Rod: Refer to Section 03152, Part 2.

B. Crack Sealing Compound: Sealant with the following characteristics:

Table 1

Property	Test Method	Requirement
Tensile Strength Adhesion, 4 h Cure	ASTM D 3406	Section 4.7
Ductility	*	Min. 12 inches at 0 .4 inch/min. at 40 degrees F
Force-Ductility	*	4 lbs max.
Flow	ASTM D 3405	Section 4.3
Asphalt Compatibility	*	At 140 degrees F
Workability	*	1/4 inch penetration
Curing	*	45 minutes
Flexibility, 1/8 inch x 1 inch x 6 inches	*	No cracks

* Contact UDOT Research Division.

2.2 EQUIPMENT

A. Sealant placement equipment:
   1. Capable of circulating hot oil for heat transfer to heat the product (sealant machines).
   2. Do not use direct heat transfer units (tar pots).
   3. Do not exceed the 525 gallon maximum product tank capacity of the sealant placement equipment.

B. Temperature control
   1. Sealant unit required to have an approved ASTM Thermometer Number 50 degrees F, or a temperature measurement device capable of reading within +/- 4 degrees F from 194 degrees F to 700 degrees F.
   2. Observe the sealant manufacturer's instruction on application temperature.

PART 3 EXECUTION

3.1 PREPARATION

A. Sampling:
   1. Stockpile all sealant to be used on the project at least 20 working days prior to use. Keep the stockpile dry.
   2. Notify the Engineer when stockpile is established and ready to be sampled.
   3. Take at least one random sample of each batch or lot number (minimum of 11 lbs/sample).
   4. Do not place any material until the batch or lot material has been approved.
   5. No claim or extension of contract applies when the material fails to meet specification.

3.2 APPLICATION

A. Apply to designated joints as shown on the plans.

B. Immediately before sealing the joints, clean 6 inches on both sides of the joint of foreign matter and loosened particles with an HCA (hot compressed air) heat lance. Adequate cleaning is determined by a darkening of the surface at least 6 inches in width, centered on the joint.

C. Fill the joints following the "Joint Crack Sealing" detail on the plans.

D. Use an appropriate backer rod in the joint opening where the depth and width of the joint opening are greater than 2 inches and 1/2 inch respectively.

E. Replace the sealant material picked up or pulled out at the Contractor's expense. The Contractor will remain liable for any damage to the traveling public resulting from sealant application or sealant pull-out.

END OF SECTION

January 20, 2003

SPECIAL PROVISION
SP-0091(18)26

SECTION 16525M

HIGHWAY LIGHTING

Add the following to Article 2.9, LUMINAIRES:

E. Decorative Luminaire Assembly.
   1. Use Logan City approved standard refractive globe luminaire, Hadco Part No. R54-B-B-N-A-F-R-G-150S-MT, with 150 Watt (240 Volt) High Pressure Sodium lamp.

Add the following to Article 3.7, INSTALL LUMINAIRES AND BALLASTS:

E. Decorative Luminaire Assembly:
   1. Install decorative luminaire assembly on pre-cast concrete light pole as shown on the structural plans.

END OF SECTION